

# GEOMETRY AND SPATIAL SENSE: Geometric Properties

Grade 4	Grade 5	Grade 6
<b>Overall Expectation #1</b>		
- Identify quadrilaterals and three-dimensional figures and classify them by their geometric properties, and compare various angles to benchmarks	- Identify and classify two-dimensional shapes by side and angle properties, and compare and sort three-dimensional figures	- Classify and construct polygons and angles
<b>Specific Expectations</b>		
- Draw the lines of symmetry of two-dimensional shapes, through investigation using a variety of tools and strategies		
- Identify and compare different types of quadrilaterals (i.e., rectangle, square, trapezoid, parallelogram, rhombus) and sort and classify them by their geometric properties		- Sort and classify quadrilaterals by geometric properties related to symmetry, angles, and sides, through investigation using a variety of tools and strategies
	- Distinguish among polygons, regular polygons, and other two-dimensional shapes	- Sort polygons according to the number of lines of symmetry and the order of rotational symmetry, through investigation using a variety of tools
- Identify and describe prisms and pyramids, and classify them by their geometric properties (i.e., shape of faces, number of edges, number of vertices), using concrete materials	- Distinguish among prisms, right prisms, pyramids, and other three-dimensional figures	
- Identify benchmark angles (i.e., straight angle, right angle, half a right angle), using a reference tool and compare other angles to these benchmarks	- Identify and classify acute, right, obtuse, and straight angles	
- Relate the names of the benchmark angles to their measures in degrees	- Measure and construct angles up to $90^\circ$ , using a protractor	- Measure and construct angles up to $180^\circ$ using a protractor, and classify them as acute, right, obtuse, or straight angles
	- Identify triangles (i.e., acute, right, obtuse, scalene, isosceles, equilateral), and classify them according to angle and side properties	
	- Construct triangles, using a variety of tools, given acute or right angles and side measurements	- Construct polygons using a variety of tools, given angle and side measurements

## GEOMETRY AND SPATIAL SENSE: Geometric Relationships

Grade 4	Grade 5	Grade 6
<b>Overall Expectation #2</b>		
- Construct three-dimensional figures, using two-dimensional shapes	- Identify and construct nets of prisms and pyramids	- Sketch three-dimensional figures, and construct three-dimensional figures from drawings
<b>Specific Expectations</b>		
- Construct a three-dimensional figure from a picture or model of the figure, using connecting cubes		- Sketch, using a variety of tools, isometric perspectives and different views (i.e., top, side, front) of three dimensional figures built with interlocking cubes  - Build three-dimensional models using connecting cubes, given isometric sketches or different views (i.e., top, side, front) of the structure
- Construct three-dimensional figures, using only congruent shapes		
- Construct skeletons of three-dimensional figures, using a variety of tools, and sketch the skeletons		
- Draw and describe nets of rectangular and triangular prisms	- Identify prisms and pyramids from their nets	
- Construct prisms and pyramids from given nets	- Construct nets of prisms and pyramids, using a variety of tools	

## GEOMETRY AND SPATIAL SENSE: Location and Movement

Grade 4	Grade 5	Grade 6
<b>Overall Expectation #3</b>		
- Identify and describe the location of an object, using a grid map, and reflect two-dimensional shapes	- Identify and describe the location of an object, using the cardinal directions, and translate two-dimensional shapes	- Describe location in the first quadrant of a coordinate system, and rotate two-dimensional shapes
<b>Specific Expectations</b>		
- Identify and describe the general location of an object using a grid system	- Locate an object using the cardinal directions (i.e., north, south, east, west) and a coordinate system – Compare grid systems commonly used on maps (i.e., the use of numbers and letters to identify an area; the use of a coordinate system based on the cardinal directions to describe a specific location)	- Explain how a coordinate system represents location, and plot points in the first quadrant of a Cartesian coordinate plane
- Identify, perform, and describe reflections using a variety of tools	– Identify, perform, and describe translations, using a variety of tools	– Identify, perform, and describe, through investigation using a variety of tools, rotations of 180° and clockwise and counterclockwise rotations of 90°, with the centre of rotation inside or outside the shape
– Create and analyse symmetrical designs by reflecting a shape, or shapes, using a variety of tools, and identify the congruent shapes in the designs	– Create and analyse designs by translating and/or reflecting a shape, or shapes, using a variety of tools	– Create and analyse designs made by reflecting, translating, and/or rotating a shape, or shapes, by 90° or 180°